

0603 Fast Acting SMD Fuses

SC0603 Fast-Acting Series

Description

SC0603 Fast-Acting Series are the fuses set the industry standard for performance, reliability and quality. The solder-free design provides excellent on-off and temperature cycling characteristics during use and also makes our SMD fuses more heat and shock tolerant than typical subminiature fuses.



Features

- ◆ Rapid interruption of excessive current.
- ◆ Compatible with reflow and wave solder.
- ◆ Ceramic and glass construction.
- ◆ One time positive disconnect.
- ◆ Lead Free and Halogen free material.

Electrical Characteristics

Rated Current	1.0In	2.5In	3.5In
250mA~750mA	4.0 hour min	---	5.0 sec max
1~5A	4.0 hour min	5.0 sec max	---
6~7A	4.0 hour min	5.0 sec max	---
8A	4.0 hour min	5.0 sec max	---

Specifications

Part Number	Rated Voltage DC (V)		Rated Current (A)	Breaking Capacity (A)	Typical Cold. Resistance (mOhms)	Typical Voltage Drop (mV)	Typical Pre-Arcing I ² t (A ² Sec)	Alpha Mark
06 000.0.25	63	32	0.25	50A	3100	1435	0.0012	D
06 000.0.375			0.375		1600	1250	0.0028	E
06 000.0.5			0.5		1000	750	0.005	F
06 000.0.75			0.75		440	550	0.015	G
06 000.1			1		257	390	0.02	B
06 000.1.5			1.5		137	320	0.07	H
06 000.2			2		70.5	220	0.14	K
06 000.2.5			2.5		52	200	0.25	L
06 000.3			3		34	155	0.30	O
06 000.3.5			3.5		23	135	0.50	R
06 000.4			4		20.5	130	0.80	S
06 000.5			5		13.25	115	1.6	T

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Specifications (Continue)

Part Number	Rated Voltage DC (V)		Rated Current (A)	Breaking Capacity (A)	Typical Cold Resistance (mOhms)	Typical Voltage Drop (mV)	Typical Pre-Arcing I ² t (A ² Sec)	Alpha Mark
06 000.6	32		6	50A	8.9	100	2.6	V
06 000.7			7		6.95	95	3.3	X
06 000.8			8		5.43	90	4.5	Z

- ◆ DC Interrupting Rating (Measured at rated voltage, time constant of less than 50 microseconds, battery source)
- ◆ DC Cold Resistance are measured at <10% of rated current in ambient temperature of 25 degrees
- ◆ Typical Pre-arcing I²t are measured at 10In Current

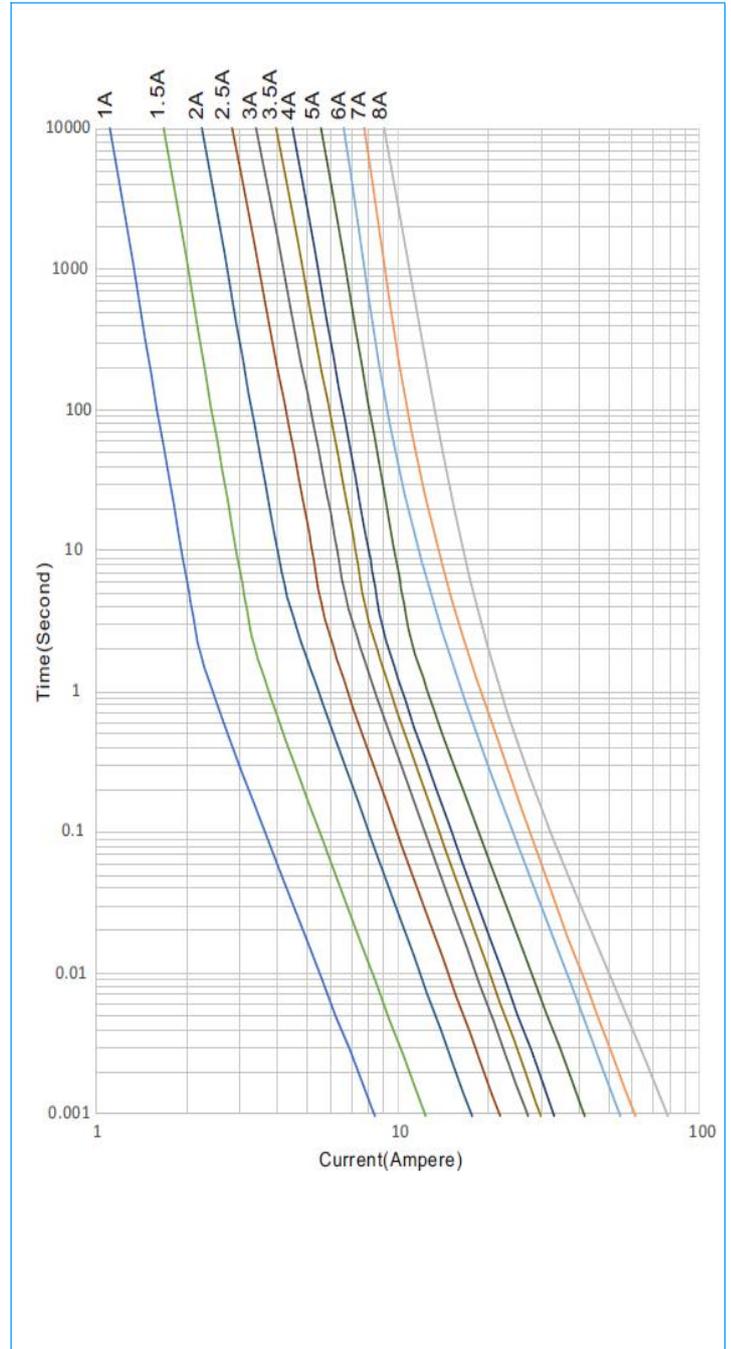
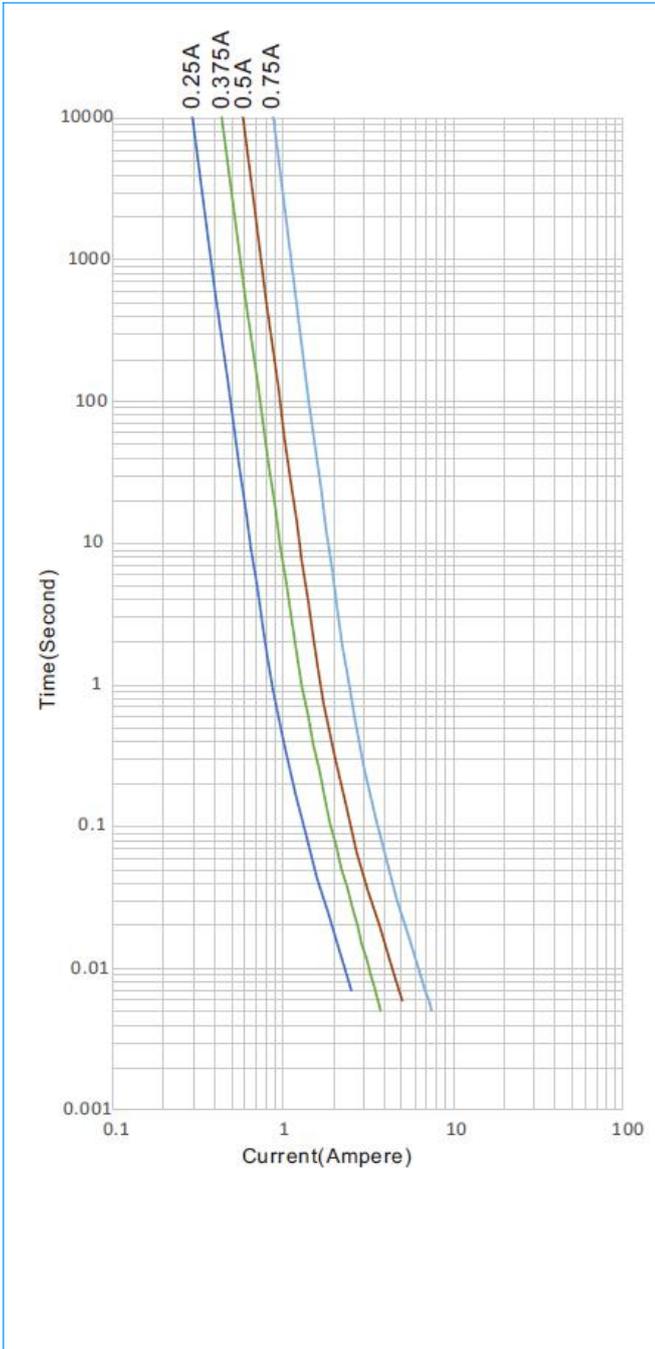
Product Characteristics

Materials	Body: Ceramic Terminations: Silver over-plated with tin Element: Alloy(Ag,Cu,Zn) Cover Coat: Glass
Operating Temperature	-55°C to 125°C Consult temperature derating curve chart
Thermal Shock	300 cycles -55°C to 125°C
Humidity	MIL-STD-202F, Method 103B, Condition D
Vibration	Per MIL-STD-202F, Method 201A
Insulation Resistance (After Opening)	Greater than 10,000 ohms
Resistance to Soldering Heat	MIL-STD-202G, Method 210F, Condition D

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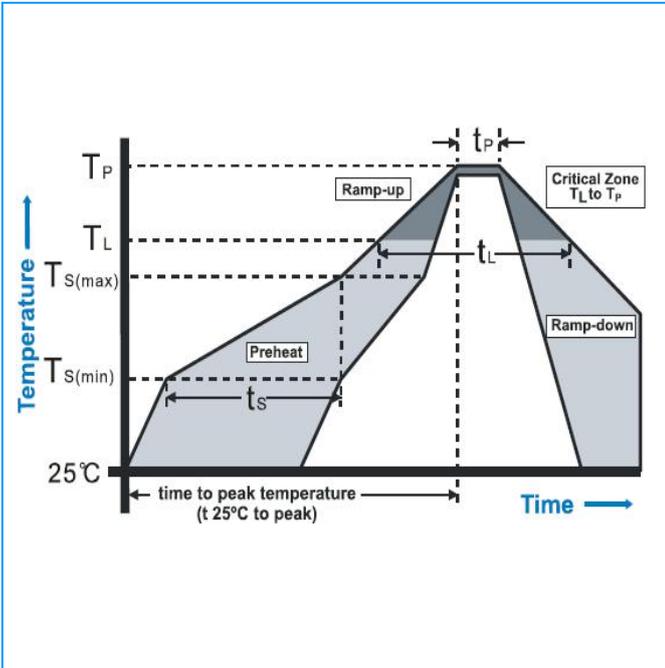
Time Current Curve



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Recommended Soldering Parameters



Reflow Condition		Pb-free assembly
Pre Heat	- Temperature Min ($T_{s(min)}$)	150°C
	- Temperature Max ($T_{s(max)}$)	200°C
	- Time (min to max) (t_s)	60 -120 seconds
Average Ramp-up Rate (Liquidus Temp (T_L) to peak)		3°C /second max.
TS(max) to TL - Ramp-up Rate		5°C /second max.
Reflow	- Temperature(T_L) (Liquidus)	217°C
	- Temperature (T_L)	60 – 150 seconds
Peak Temperature (T_P)		260+0/-5°C
Time within 5°C of actual Peak Temperature (T_P)		30 seconds
Ramp-down Rate Time 25°C to peak Temperature (T_P) Do not exceed		6°C/second max 8 minutes max. 260°C

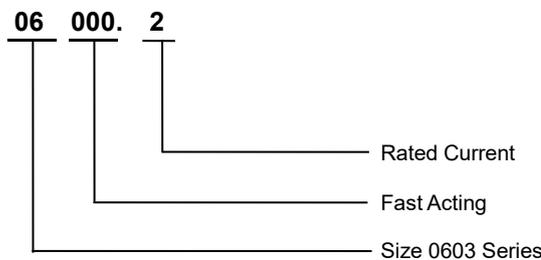
◆ **Wave / Reflow Soldering Parameters:**

- Solder Pot Temperature: 260°C max;
- Solder Dwell Time: 10 seconds max;

◆ **Hand-Solder Parameters:**

- Solder Iron Temperature: 280±5°C;
- Heating Time: 5 Seconds min;
- Generally, hand-soldering is not recommended;

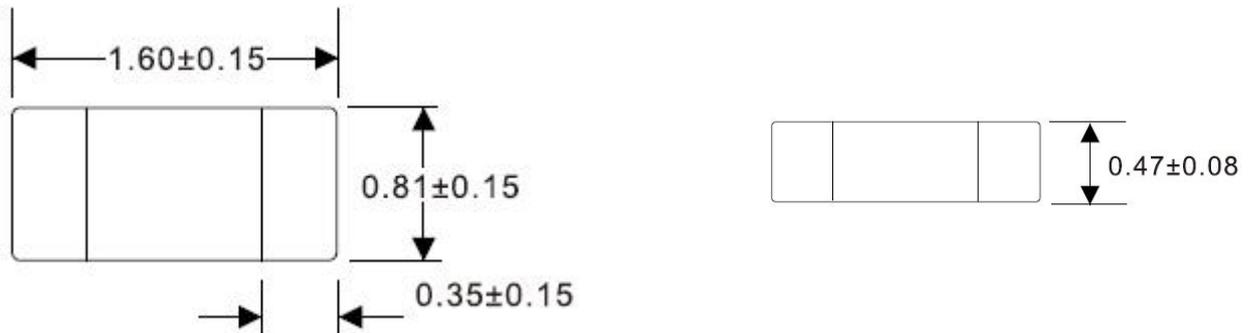
Part Numbering



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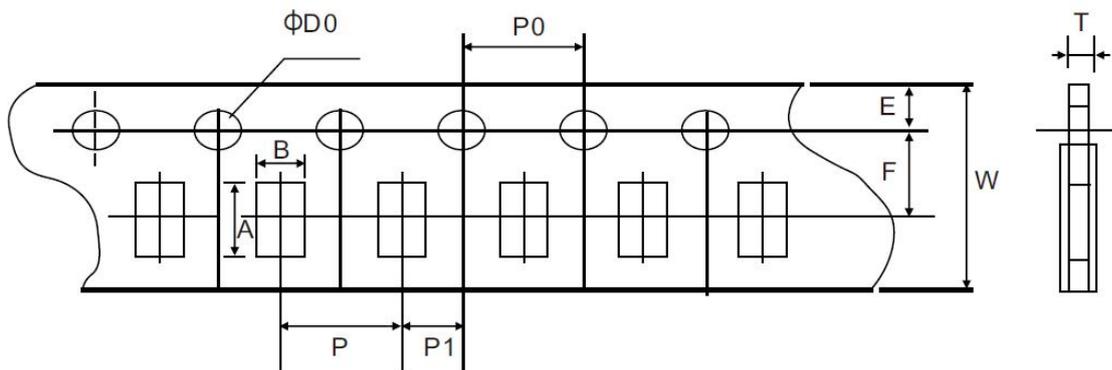
Dimensions (Unit: mm)



Packaging (Unit: mm)

5,000 pieces of fuses in plastic or paper taper

5000pcs)



Symbol	A	B	W	F	E
Spec.(mm)	1.85 ± 0.10	1.10 ± 0.10	8.00 ± 0.10	3.50 ± 0.05	1.75 ± 0.10
Symbol	P	P0	P1	D0	T
Spec.(mm)	4.00 ± 0.10	4.00 ± 0.10	2.00 ± 0.05	1.50 ± 0.10	0.65 ± 0.10